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No. V.

## ADJUSTING DOOR-LEVER.

*The SILVER VULCAN MEDAL was this session presented to Mr. J. ADCOCK, 24, Leman-street, Goodman's-fields, for an adjusting Door-lever ; a model of which has been placed in the Society's repository.*

24, Leman-street, Goodman's-fields,

SIR,

April 18, 1825.

I BEG to submit to the Society for the encouragement of Arts, &c. &c. the accompanying model of an adjusting lever for closing a door, the peculiarity of which consists in the variation and disposition of force of which it is capable ; first, the force will be more or less by moving the regulating ball upwards or downwards on the projecting arm or lever, so as to counteract any inconvenience arising from sudden changes of the wind, &c. ; this ball is fixed in the required situation by means of a pin fastened in the upper part of the hole, and which falls into the holes seen in the lever. Secondly, the disposition of the force will depend on the form of the curve acting immediately on the door.

I am, Sir,

&amp;c. &amp;c. &amp;c.

*A. Aikin, Esq.**Secretary, &c. &c.*

JOHN ADCOCK.

The particular advantages proposed by the use of this lever are as follow.

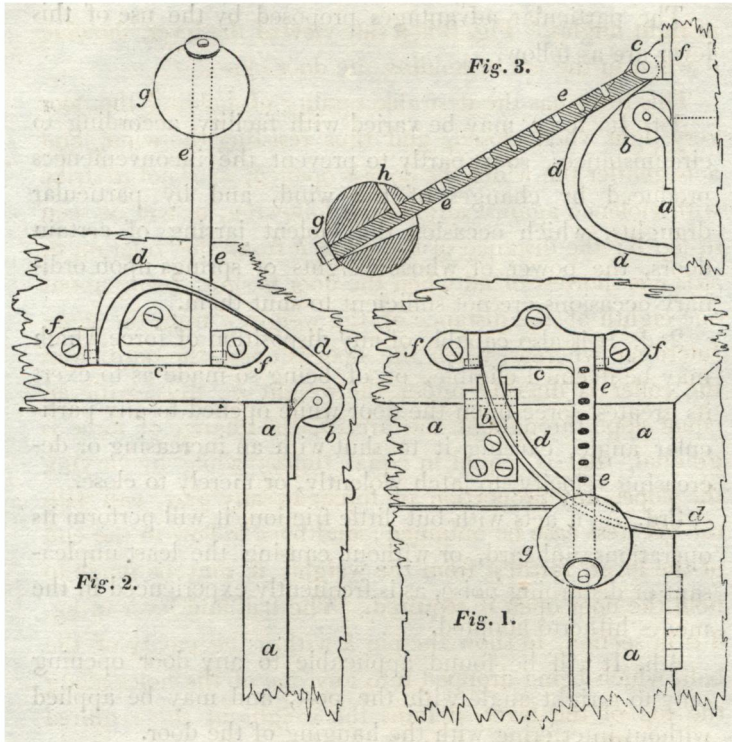
1st. Its force may be varied with facility, according to circumstances, so as partly to prevent the inconveniences produced by changes of the wind, and by particular draughts, which occasion the violent jarring of certain doors, the power of whose weights or springs upon ordinary occasions are not sufficient to shut them.

2nd. It is also capable of any disposition of force which may be deemed eligible, or of being so made as to exert its greatest force upon the door while opened to any particular angle, causing it to shut with an increasing or decreasing velocity, to latch violently, or merely to close.

3rd. As it acts with but little friction, it will perform its operations unheard, or without causing the least unpleasant or disturbing noise, as is frequently experienced in the modes hitherto adopted.

4th. It will be found applicable to any door opening only to a right angle with the post, and may be applied without interfering with the hanging of the door.

5th. Its construction being extremely simple, the expense will be trifling, and as it is not liable to be deranged, it will continue to act as long as its materials will last.



Figs. 1 and 3, *a a a* part of a closed door with one of its hinges, *b* a roller screwed to the top of the door, *c* an axis carrying the curved arm *d d*, and lever *e e*, it moves in the frame *f f*, which is screwed a little above the door; a weight *g* is placed on the lever. On opening the door, the roller *b* travels under the arm *d*, and raises both it and the weight; and as the curvature of the arm *d* is such as to form an inclined plane in every part, the door, on being let go, will close by the leverage of the ball *g* causing the inclined plane to act continually on the roller *b*. Fig. 2 shows the position of the weight when the door is opened

at right angles. Fig. 3 is a side view of the lever, showing it when in the act of holding the door close.

This lever has the desirable quality of holding the door very tight when closed, and thus resisting the wind, and acts gentler the wider the door is opened, so as not to strike with violence against any person following, as will be seen in fig. 3; the distance of the roller *b* from the fulcrum or axis *c* is shortest of all when the door is shut, being about one-eighth of the distance of the weight *g* from the same fulcrum; whereas, when the door is open, the position of the roller is directly under the weight *g*; thus, with an equal slope throughout the arm *b*, the change of force is gradual, that is, equal in equal times; while by varying the slope, any proportion of force, in any part, can with the greatest ease be obtained; and by a hollow in the end of the lever, farthest from the weight, it may be made to hold the door open if required. The ball and lever in fig. 3 is in section, to show the pin *h* within the cavity of the ball, which being dropped into any one of the holes along the top of the lever, detains the weight at the required place. The hole through the weight being wider under the pin than is necessary for the reception of the lever, allows the pin to be raised out of any hole, and transferred to any other at pleasure; the leverage, therefore, may, without difficulty, be adjusted to suit the most windy or the most quiet day. When there is sufficient thickness in the wall above the door, the whole of the apparatus may be concealed, by letting the door turn upon an axis, which rises through the frame, above the door, sufficiently high to allow the descent of the arm *d*, and it must have a short arm on its top, at right angles with the door, to carry the roller *b* at its end, the lever *e* will then be parallel with the

wall, and concealed within it, and as the arm on the axis and the curved arm *d* must be lessened to suit the thickness of the wall, the weight must be increased, or the lever lengthened, to gain sufficient power.

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No. VI.

APPARATUS FOR SECURING AND RELEASING  
A SHIP'S ANCHOR.

*The GOLD VULCAN MEDAL was this session presented to Mr. W. SPENCER, Ordnance-place, Chatham, for his Apparatus for securing and letting go Ships' Anchors; a model of which has been placed in the Society's repository.*

11, Ordnance-place, Chatham,

SIR,

October 5, 1825.

HAVE to request that you will be pleased to submit, for the consideration of the Society of Arts, the accompanying model (which I also request the Society to accept) of part of the bow of a 74-gun ship, fitted with my plan for letting go ships' anchors.

The said plan was projected in 1819, and first fitted in the *Forte*, at the express desire of Captain Sir Thomas Cochrane, in 1820; and subsequently in numberless other ships, by request of the respective captains.

The Navy Board have awarded me the sum of 150*l.*, and ordered its general adoption in his majesty's navy, as